

10/521583

DT69 Rec' T/PTO 18 JAN 2005

"Home agent optimization for handling  
mobile IP and static label switched  
paths"

CLAIM FOR PRIORITY

This application is a national stage of PCT/EP2002/007860,  
published in the German language on January 22, 2004, which  
was filed in the english language on July 15, 2002.

TECHNICAL FIELD OF THE INVENTION

The invention ~~concerns~~ relates to a method and an optimized home agent for transfer of IP datagrams over a path from a sender over a radio access network to a mobile host.

BACKGROUND OF THE INVENTION

WO 01 06732 A discloses a method for transfer of data over a path from a sender over a radio access network to a mobile IP host.

"MPLS-an introduction to multiprotocol label switching" white paper Nortel networks, , April 2001 (2001-04), pages 1-12, XP 002950989 discloses a multiprotocol label switching protocol (MPLS), wherein an MPLS node agent sends a data packet to a 15 further node.

The Mobile IP protocol is a concept to deal with user mobility issues for transport of IP related services. As a prerequisite the access network as well as the core network use IP as the network layer protocol and are

AMENDED SHEET

capable to run the mobile IP protocol in addition. The network architecture for mobile IPv4 includes home agents and foreign agents to build forwarding IP tunnels, when a mobile host moves out of the home network to attach to a different access point for requesting services from a network. The foreign agent represents the default router for a mobile host, if it is attached to an access point outside the home network. When a correspondent node sends packets to a mobile host currently registered at a different location, the home agent intercepts all packets for that host and reroutes them to the new location. The home agent's binding cache contains rerouting information for all mobile hosts currently attached to different access points. The care-of-address specifies the mobile node's temporarily acquired host address after registering at a different location.

Using IP tunnels between home agent and foreign agent becomes inefficient, if the transport network already provides alternative tunneling mechanisms to interconnect various access points. The MPLS called label switching approach offers support for IP traffic engineering by introduction of